

WHAT IS CLAIMED IS:

1. A method of establishing media channels between a local packet-switched media endpoint and a remote packet-switched endpoint, comprising the steps of:
 - receiving a remote capability set from the remote endpoint;
 - 5 selecting a local media format appearing in both the remote capability set and a local capability set;
 - requesting a first transmit channel, in the local media format, with the remote endpoint;
 - detecting the remote media format of a remote transmit channel opened by the
 - 10 remote endpoint; and
 - when the local and remote media formats differ, closing the first transmit channel and requesting a second transmit channel, in the remote media format, with the remote endpoint without awaiting a response from the remote endpoint as to the first transmit channel.
 - 15
2. The method of claim 1, wherein the recited steps are performed at the local endpoint.
3. The method of claim 1, wherein at least one of the recited steps is performed by a
- 20 call agent.
4. The method of claim 1, further comprising the steps of:
 - detecting, subsequent to the opening a second transmit channel step, that the remote endpoint has changed the remote transmit channel from the original
 - 25 remote media format; and

closing the second transmit channel and opening a third transmit channel using the current remote transmit channel media format.

5. The method of claim 1, further comprising the steps of:

5 detecting, subsequent to the opening a second transmit channel step, that the remote endpoint has changed the remote transmit channel from the original remote media format;

 delaying for a waiting period to see if the remote endpoint changes the remote transmit channel back to the original media format; and

10 if, after the waiting period, the remote endpoint has not changed the remote transmit channel back to the original media format, closing the second transmit channel and opening a third transmit channel using the current receive channel media format.

15 6. The method of claim 5, wherein the execution of the delaying for a waiting period step depends on whether the local endpoint is designated as master or slave.

7. The method of claim 6, wherein the waiting period step executes when the local endpoint is slave.

20

8. The method of claim 5, wherein the length of the waiting period is based on the observed time difference between the time of requesting the first transmit channel and the time of receiving a response to that request.

25 9. The method of claim 8, wherein the detecting a remote format change step

comprises counting the number of requests to open a transmit channel issued locally.

10. The method of claim 8, wherein the detecting a remote format change step
5 comprises counting the number of requests to open a transmit channel issued remotely.
11. The method of claim 8, wherein the detecting a remote format change step
comprises comparing recent local requests to open a transmit channel with recent
10 remote requests to open a transmit channel.
12. The method of claim 5, further comprising the step of limiting to a maximum the
number of times that a local channel can be opened during call setup.
- 15 13. A codec selector comprising:
a codec conflict detector that detects conflicts between locally-requested and
remotely-requested codecs;
a codec synchronizer that responds to a conflict detected by the codec conflict
detector by closing a locally-requested codec and requesting a different codec that
20 does not conflict with the remotely-requested codec.
14. The codec selector of claim 13, further comprising detecting means for detecting
that a remote endpoint is also operating a codec synchronizer.
- 25 15. The codec selector of claim 14, wherein the detecting means counts responses to

conflicts by the codec synchronizer.

16. The codec selector of claim 14, further comprising delay means, responsive to the
detecting means, for delaying a response to a conflict by the codec synchronizer,
5 thereby allowing time for the remote endpoint to synchronize codecs with the
local endpoint.

17. The codec selector of claim 16, wherein the delay means comprises a timer.

10 18. The codec selector of claim 17, further comprising a delay estimator, the delay
estimator supplying the timer with an estimate of the round-trip delay between the
dispatch of a request to the remote endpoint and the receipt of a corresponding
response from the remote endpoint.

15 19. The codec selector of claim 18, wherein the timer bases a timeout period on the
estimate from the delay estimator.

20. The codec selector of claim 16, wherein the codec conflict detector signals the
delay means to reset when the remote endpoint achieves synchronization.

20

21. The codec selector of claim 13, embodied in a media gateway.

22. The codec selector of claim 13, embodied in a media gateway controller.

25 23. A media gateway comprising:

a plurality of receive codecs and a plurality of transmit codecs, the gateway constrained such that some combinations of a receive codec and a transmit codec cannot be used on the same call;

5 a codec conflict detector that detects when a remote endpoint has requested a receive codec that is incompatible with a transmit codec requested by the gateway; and

a codec synchronizer that responds to a conflict detected by the codec conflict detector by closing the requested transmit codec and requesting a different codec that is compatible with the requested receive codec.

10